Hardware User's Manual

Hydra Series

Megapixel Extendible Network Camera

PH-100Ah Kit Series

Product name:	Network Camera (Hydra Series)
Release Date:	2014/6
Manual Revision:	V1.0
Web site:	www.brickcom.com
Email:	support@brickcom.com
	info@brickcom.com

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Before You Use This Product

In many countries, there are laws prohibiting or restricting the use of surveillance devices. This Network Camera is a high-performance, web-ready camera which can be part of a flexible surveillance system. It is the user's responsibility to ensure that the operation of this camera is legal before installing this unit for its intended use.

Upon opening the product's package, verify that all the accessories listed on the "Package Contents" are included. Before installing the Network Camera, read the warnings in the "Quick Installation Guide" to avoid misuse. When installing the Network Camera, carefully read and follow the instructions in the "Installation" chapters to avoid damages due to faulty assembly or installation.

FCC Warning

This device complies with Part 15 of FCC rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operations.

Regulatory Information

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2)This device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

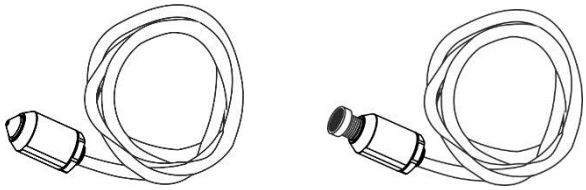
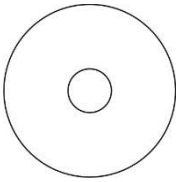
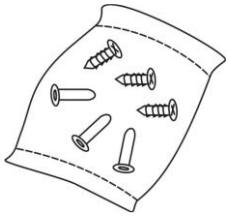
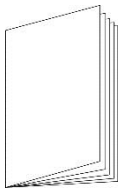
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Package Contents

Please check to make sure the product package contains all the accessories listed below.

a. Video Box (VB-03) 	b. Network Camera (Optional) * PH-100Ah-00 PH-100Ah-01 
c. Product CD 	d. Mounting Bracket
e. Warranty Card 	f. Screw Bag 
g. Easy Installation Guide 	

(*) The actual device and quantity vary with the product's configuration.

Product Comparison

Model Name		Lesns	Focal Length	Horizontal FOV
Hydra Series	PH-100Ah-00	Board Lens	3.7mm	57°
	Ph-100Ah-01	Board Lens	2.3mm	100°

Hydra Network Camera Overview

Hydra series. As the name suggests, the product is capable of connecting up to 3 cameras with the transmission cables. The Hydra series is the world's 1st simultaneous triple extensible view HDTV IP camera, offering the substantial advantage in the total cost of ownership (TCO), ease of use, and applicability. The debut of the Hydra series is another symbol for Brickcom's commitment to driving innovation and bringing the best products to the market.

The 1st product of the Hydra series is the PH-100Ah Kit. It consists of 1 unit of VB-03 video box and 1 unit of PH-100Ah super mini camera, and has the capability of connecting up to 3 PH-100Ah cameras. The PH-100Ah Kit reveals the following advantages and strengths:

1. Multiple Cameras on 1 Device: this is the key factor in reducing the cost of ownership (TCO). The idea is simple: the user can have 2 cameras for the cost of less than 2, and can have 3 cameras for the cost of less than 3. Furthermore, this triple-camera system runs merely on 1 IP address and 1 PoE cable. In addition to the reduced equipment cost, the user also benefits from the cost drops on the labor, time, and maintenance.

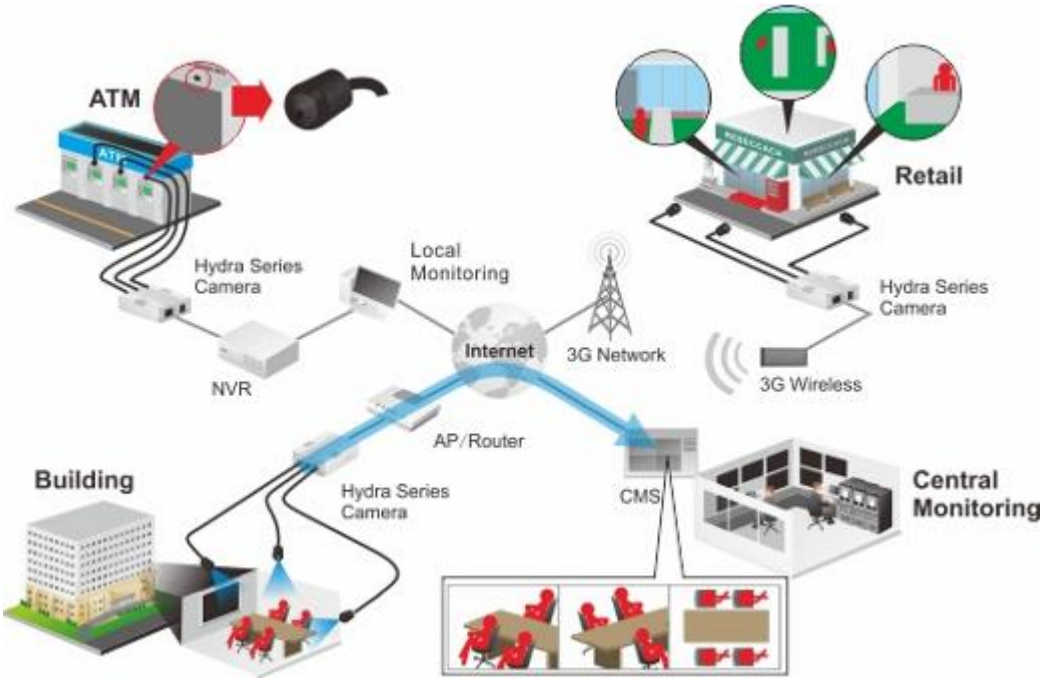
2. Extensible View: the PH-100Ah camera is a separate unit from the main body (VB-03), and is connected to the VB-03 via the extension cable. The extension

cable runs up to 7 meters for each PH-100Ah. The user is able to install the VB-03 in one place, while viewing another place through the PH-100Ah.

3. Low-Profile Monitoring: the PH-100Ah is actually the imaging sub-system taken out of the IP camera, and therefore it can be made extremely tiny and compact. This not only drives down the hardware cost, but also makes monitoring an unobtrusive practice.

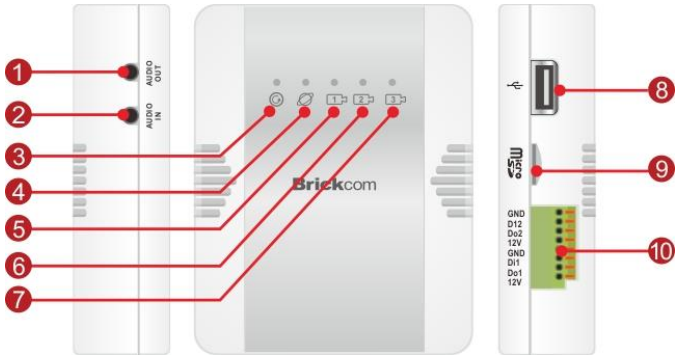
4. Multi-Purpose Monitoring: Up to 3 PH-100Ah cameras can be attached to the VB-03. More Hydra series cameras are coming out to offer the user a variety of choices in the form factor, optics, and imaging capability.

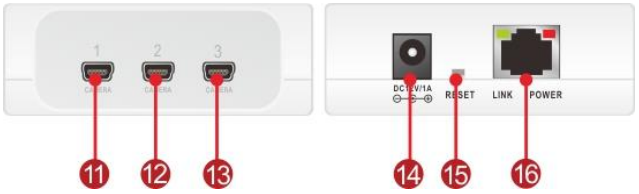
5. Collaborative Monitoring: with up to 3 PH-100Ah cameras attached to the VB-03, the PH-100Ah Kit can not only monitor 3 different places simultaneously, but also monitor a certain place from 3 distinct viewpoints. Such applications can be achieved by 3 separate conventional cameras, but the PH-100Ah Kit reveals the unbeatable advantage when the TCO is taken into consideration.



Device Appearance Description

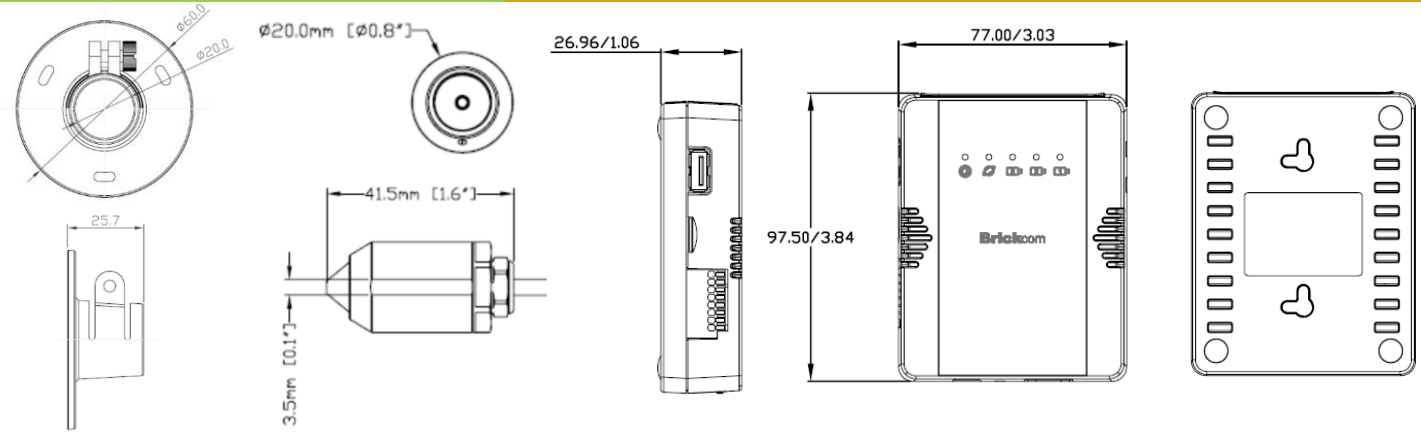
< Front & Rear view >





1. Audio out
2. Audio in
3. Status
4. Internet
5. Camera Connected indicator 1
6. Camera Connected indicator 2
7. Camera Connected indicator 3
8. 3G dongle USB port
9. Micro SD/SDHC/SDXC Card
10. 2 pairs of DI/DO
11. Camera Port 1
12. Camera Port 2
13. Camera Port 3
14. Power Jack (DC12V)
15. Reset Button
16. RJ45 connector (Ethernet/POE)

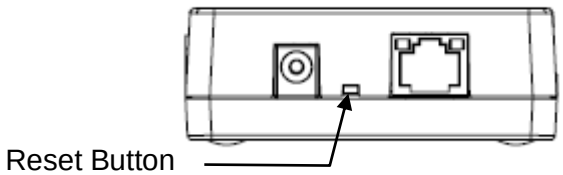
PH-100Ah	VB-03



LED Behavior

Function	LED Behavior	Description
Power	Continuous Illumination	Normal Operation
Power	Unlit	Power off
Status	Continuous Illumination	Connect to the switch by Ethernet or WiFi
Status	Unlit	1. Power off 2. No connection
Status	Blinking	Data Transmission via Ethernet
Internet	Continuous Illumination	Connect to Internet
Internet	Unlit	1. Power off 2. No Connection
Camera 1/2/3	Blinking	Upgrading firmware
Camera 1/2/3	Continuous Illumination	Firmware is successfully upgraded

Hardware Reset



The Reset Button can be used to reboot the camera or restore it to the factory default settings. If the camera experiences a problem, rebooting the camera may fix the problem. If the problem remains, please restore the camera to the factory default settings and reinstall the software.

- To Reboot − Press and hold the Reset Button for one second using a paper clip or thin object. Wait for the camera to reboot.
- To Restore − Press and hold the Reset Button for ten seconds until the LED light turns off. When it is successfully restored, the LED will be blue during the normal

operation.

NOTE - By restoring the camera, all settings will be restored to the factory default settings.

Micro SD/SDHC/SDXC Card Capacity

The network camera is compatible with Micro SD/SDHC/SDXC (Maximum 64GB) card.

System Requirements

- Operating System: Microsoft Windows, ONVIF Supported NVR system
- CPU: Pentium 3GHz or faster
- Network Interface: 10/100Mbps Network interface card must be installed
- Web Browser: Microsoft Internet Explorer, Firefox, Chrome
- Audio: The audio function will not work if a sound card is not installed in the PC.

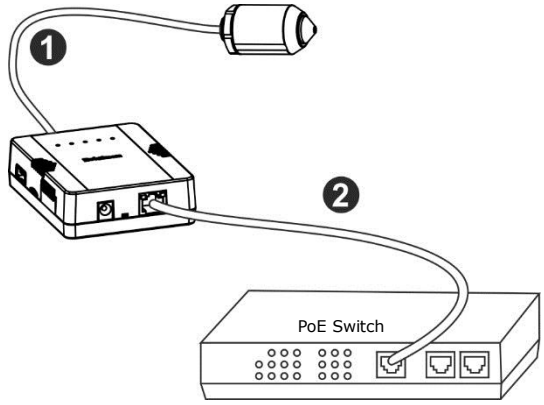
  Audio may be interrupted depending on the network traffic.

Camera Installation

Step 1. Power and Ethernet Connection

a. Power on the camera with PoE switch:

Use an Ethernet cable to connect VB-03 to the PoE switch.

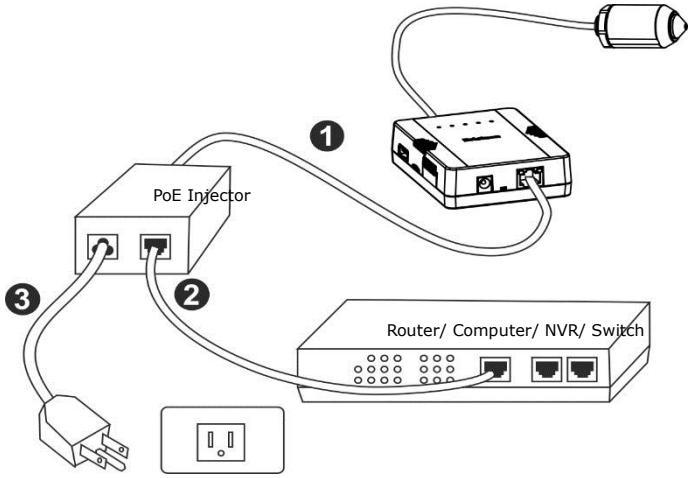


b. Power on the camera with PoE injector:

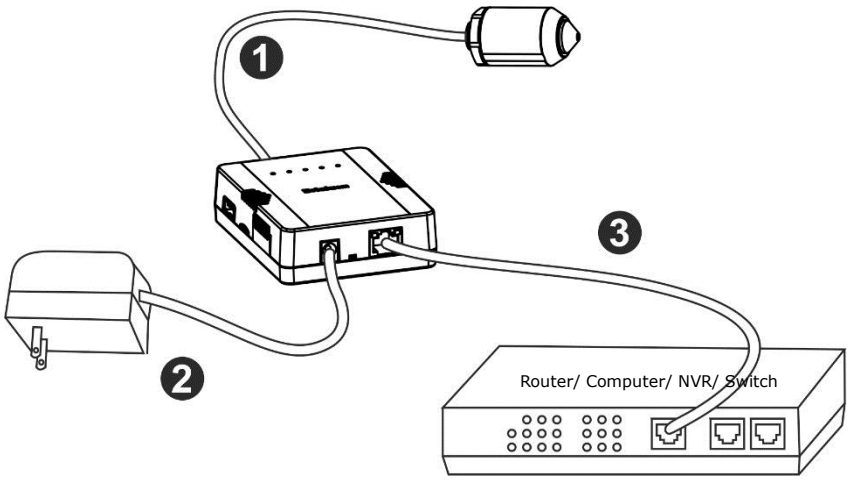
i. Use an Ethernet cable to connect VB-03 to a PoE injector.

ii. Use an Ethernet cable to connect the PoE injector to the non-PoE switch.

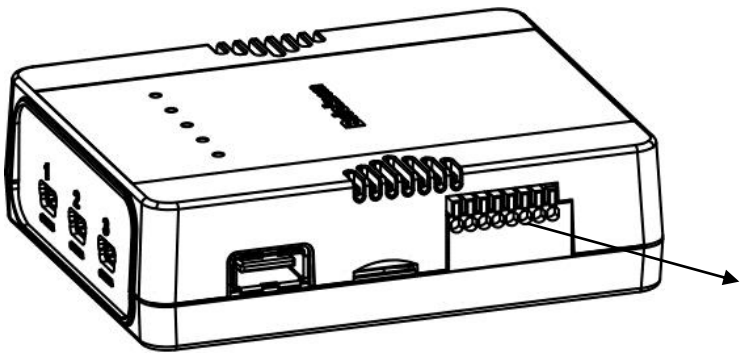
iii. Connect the PoE injector to a power outlet.



c. Power on the camera with DC12V 1A power adaptor.

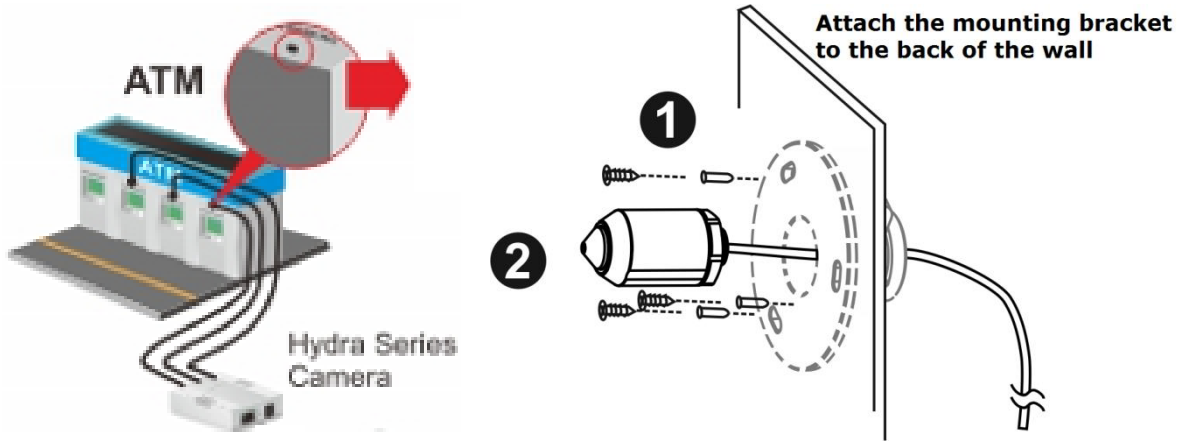


Step 2. Terminal I/O Block Adaptor Pin Definition (from left to right)



1. Ground
2. Digital Input
3. Digital Output
4. Power +12V
5. Ground
6. Digital Input
7. Digital Output
8. Ground

Step 3. Camera Installation



To extend the length of lens, we provide the 5-meter extension cable called “EXCB-5M” for you. Please click the following link to get more information about it if you need it. (http://www.brickcom.com/products/Accessory/index.php?series=Others#)

Step 4. Check the Lens Module Connections and LED Indicators

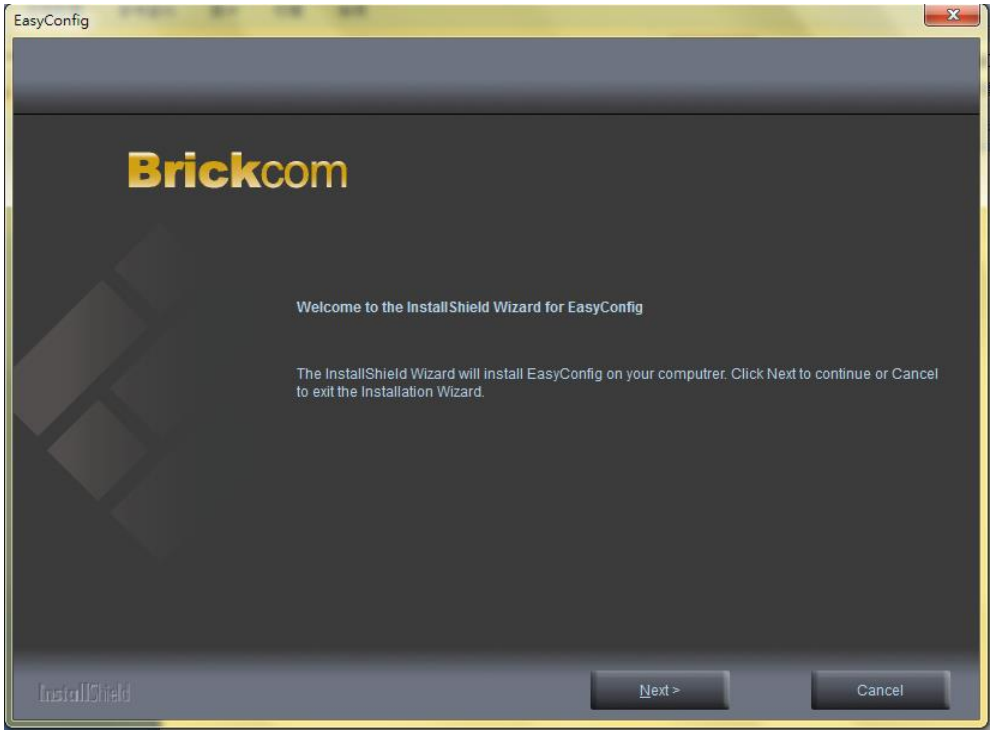
Please make sure you have plugged in all the needed lens modules to the VB-03, and make sure the corresponding LED indicators are lit.

The Hydra series camera offers simultaneous dual views with 2 lens modules connected, and simultaneous triple views with 3 lens modules connected.

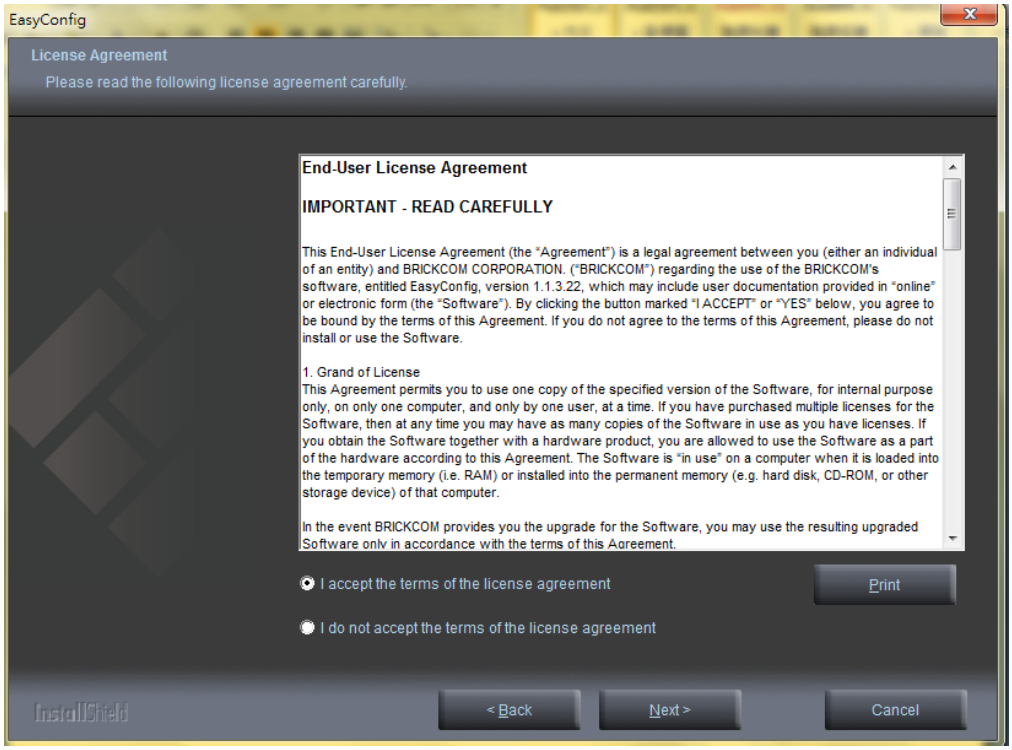
EasyConfig Installation

1. Insert the Installation CD into the CD-ROM driver. Run Auto-Run Tool directly from the CD-ROM to start the installation. When installing the Brickcom software kit at the first time, select a desired language for the interface. The available languages are listed in the scroll box. Click <**Install EasyConfig**> and follow the steps to install the EasyConfig wizard on the desired computer.

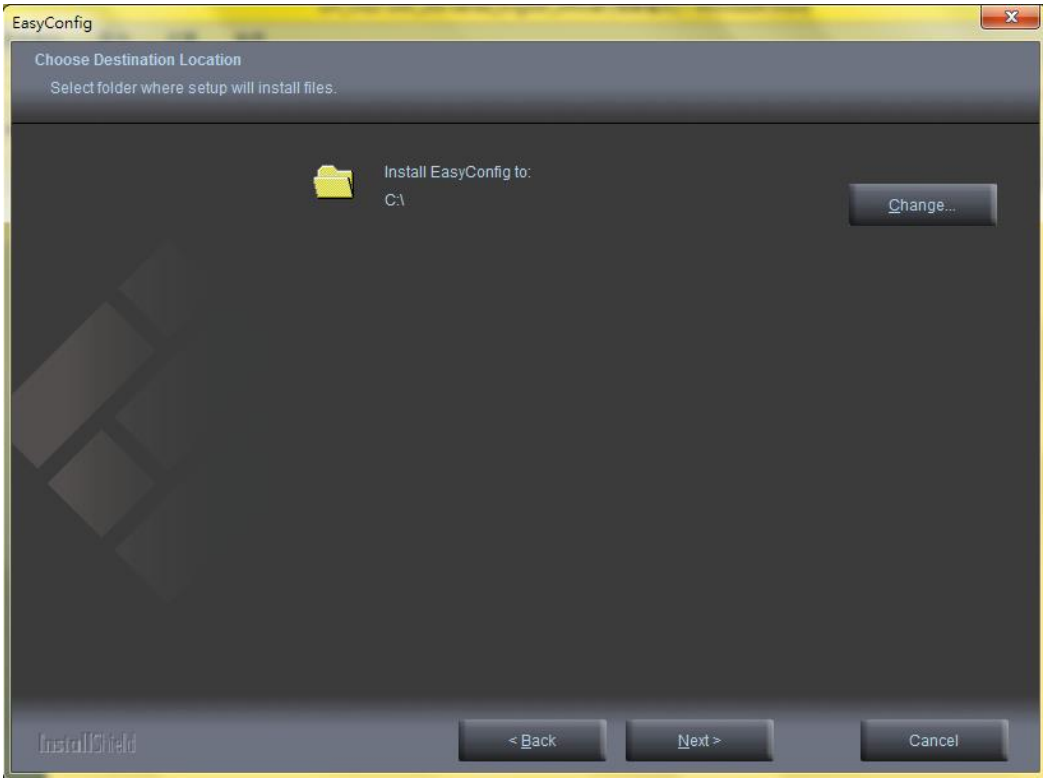
2. In the Install Shield Wizard dialog box, click <**Next**> to continue.


EasyConfig
Brickcom
Welcome to the InstallShield Wizard for EasyConfig
The InstallShield Wizard will install EasyConfig on your computrer. Click Next to continue or Cancel to exit the Installation Wizard.
InstallShield
Next >
Cancel

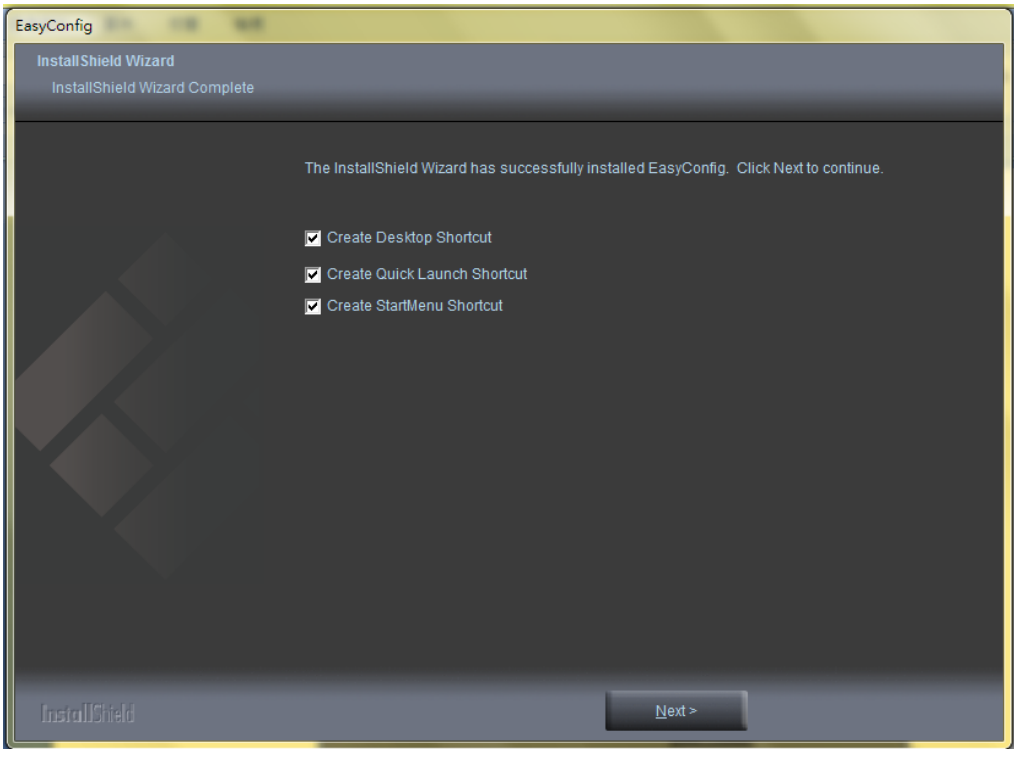
3. Read the End-User License Agreement and check the option <**I accept the terms of the license agreement**>. Then, click <**Next**> to continue.


EasyConfig
License Agreement
Please read the following license agreement carefully.
End-User License Agreement
IMPORTANT - READ CAREFULLY
This End-User License Agreement (the "Agreement") is a legal agreement between you (either an individual of an entity) and BRICKCOM CORPORATION. ("BRICKCOM") regarding the use of the BRICKCOM's software, entitled EasyConfig, version 1.1.3.22, which may include user documentation provided in "online" or electronic form (the "Software"). By clicking the button marked "I ACCEPT" or "YES" below, you agree to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, please do not install or use the Software.
1. Grand of License
This Agreement permits you to use one copy of the specified version of the Software, for internal purpose only, on only one computer, and only by one user, at a time. If you have purchased multiple licenses for the Software, then at any time you may have as many copies of the Software in use as you have licenses. If you obtain the Software together with a hardware product, you are allowed to use the Software as a part of the hardware according to this Agreement. The Software is "in use" on a computer when it is loaded into the temporary memory (i.e. RAM) or installed into the permanent memory (e.g. hard disk, CD-ROM, or other storage device) of that computer.
In the event BRICKCOM provides you the upgrade for the Software, you may use the resulting upgraded Software only in accordance with the terms of this Agreement.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

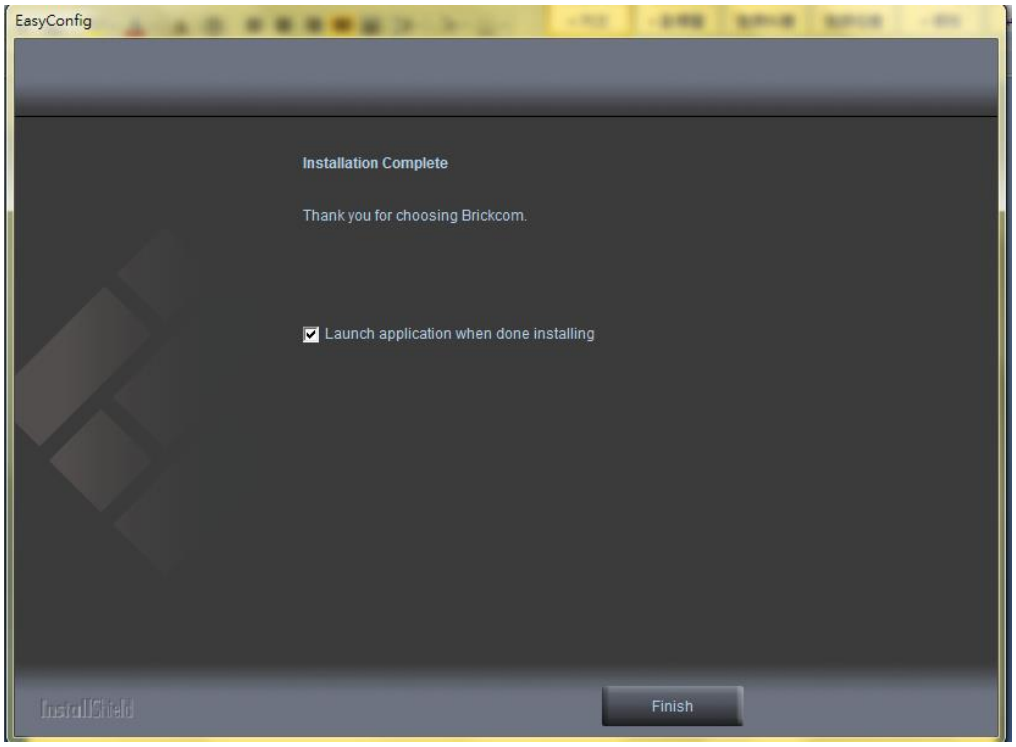
4. Click <**Change**> to change the appointed folder where the installation and program files will be stored. Then, click <**Next**> to continue.



5. Select to create shortcuts and click <**Next**> to continue.



6. Click to launch the application, and click **<Finish>** to complete the installation and return to Shield Wizard dialog box. When launching the PC-NVR program, please refer to the PC-NVR's user manual.



Launch EasyConfig

Users can search cameras by EasyConfig and configure the settings below:

- IP address configuration
- Easylink configuration
- Live View & Individual Camera Modification
- BRC64

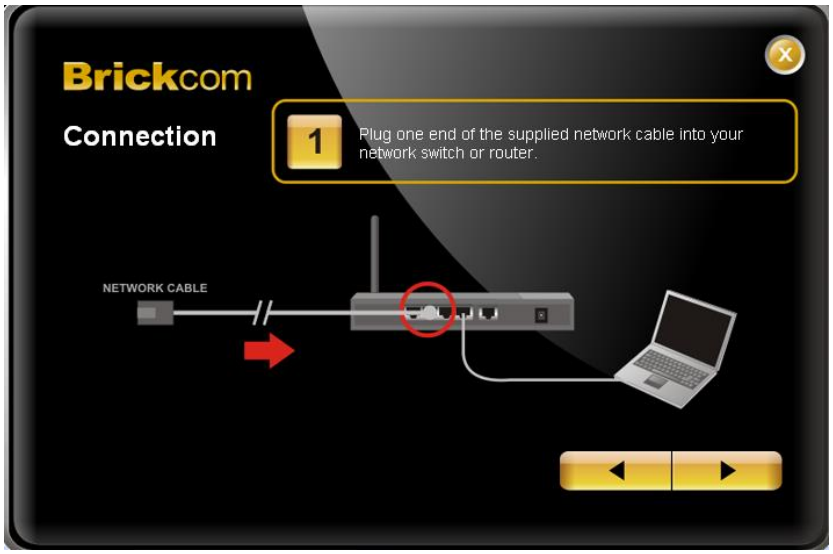
To launch EasyConfig, select "**EasyConfig**" from the start menu. If Complete Setup type was used in the software installation, an EasyConfig icon was installed on the desktop. Double click

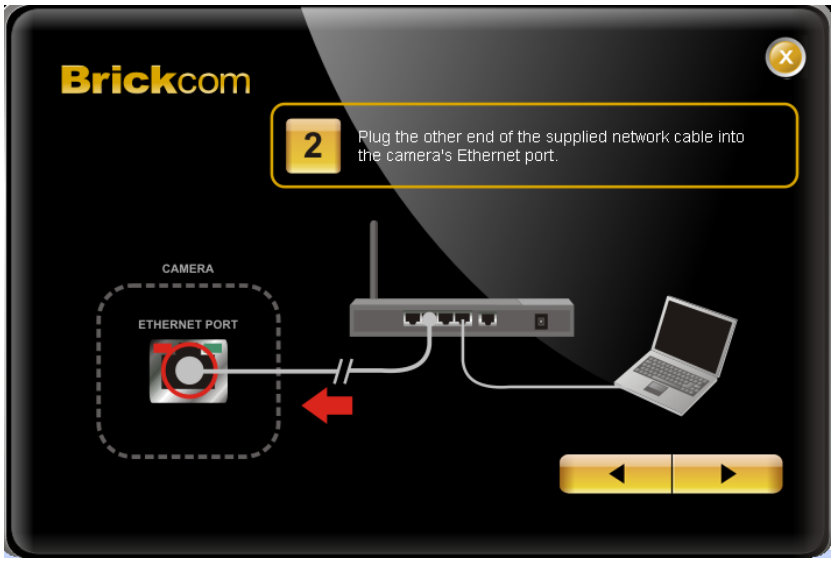
to launch EasyConfig.

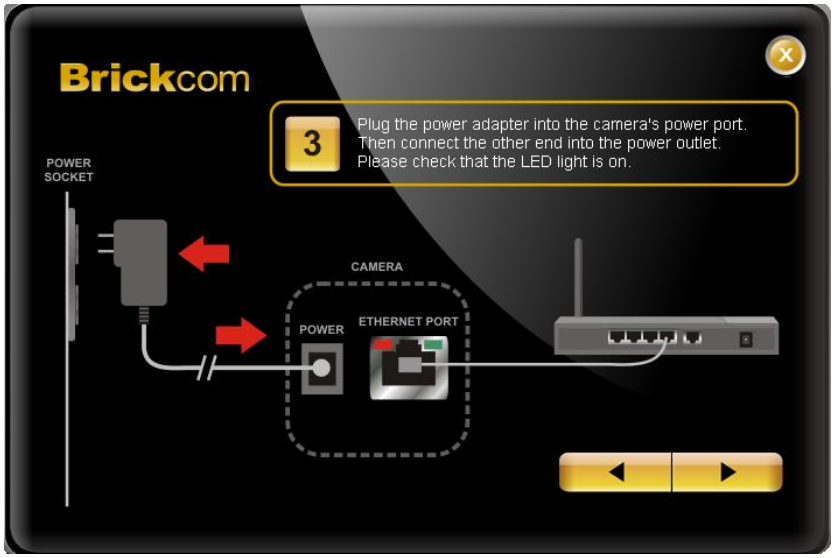
If Custom Setup type was used in the software installation but an EasyConfig icon was not installed on the desktop, the program will be installed under "**C:\Program Files\Brickcom\EasyConfig**" unless the program was saved to a preferred directory.

NOTE - Check **<Skip the hardware installation guide>** to skip checking the hardware connection. To check the hardware installation settings, do not check the option box.

1. Click <**Start**> to continue. The program will automatically search for the camera in the intranet.



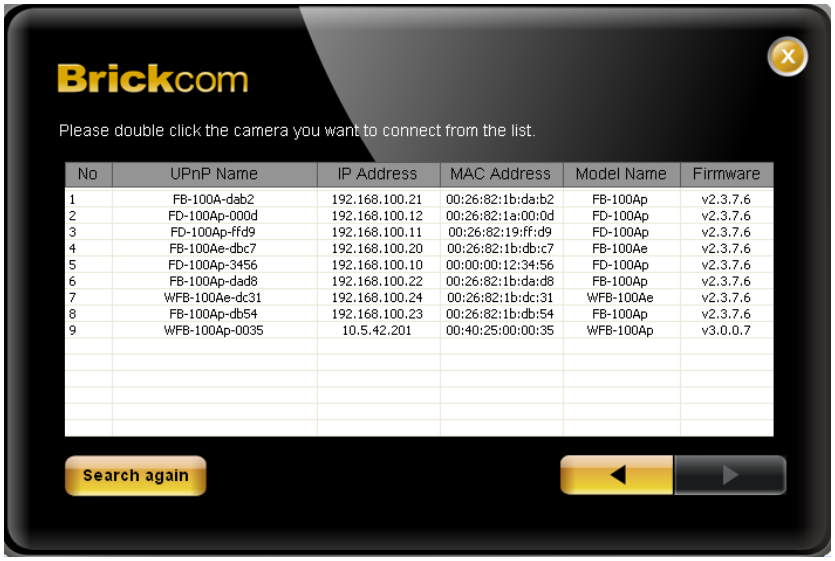

Brickcom
2
Plug the other end of the supplied network cable into the camera's Ethernet port.
CAMERA
ETHERNET PORT


Brickcom
3
Plug the power adapter into the camera's power port.
Then connect the other end into the power outlet.
Please check that the LED light is on.
POWER SOCKET
CAMERA
POWER
ETHERNET PORT

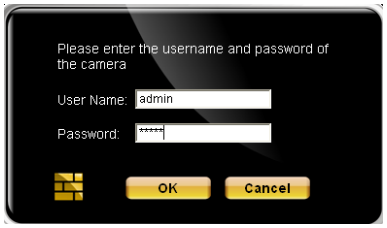
2. Select either **<Simple Mode>** or **<Professional Mode>** to obtain the camera's IP settings. If **<Simple Mode>** is selected, EasyConfig will set up the connection automatically. If **<Professional Mode>** is selected, the user will need to configure the IP settings manually.

Brickcom
If simple mode is selected, the easy configuration program will set up the connection automatically. If professional mode is selected, the user will need to configure the IP manually. The DHCP setting is recommended. If user wants to set the IP address manually, please refer to the product user manual.
Simple Mode
Professional Mode

3. There may be many cameras in the local network. Differentiate the cameras using their UPnP name. Double click on the camera from the survey list to connect.



4. Enter the username and password of the camera. For the first-time use, the default username and password are **“admin/admin.”**

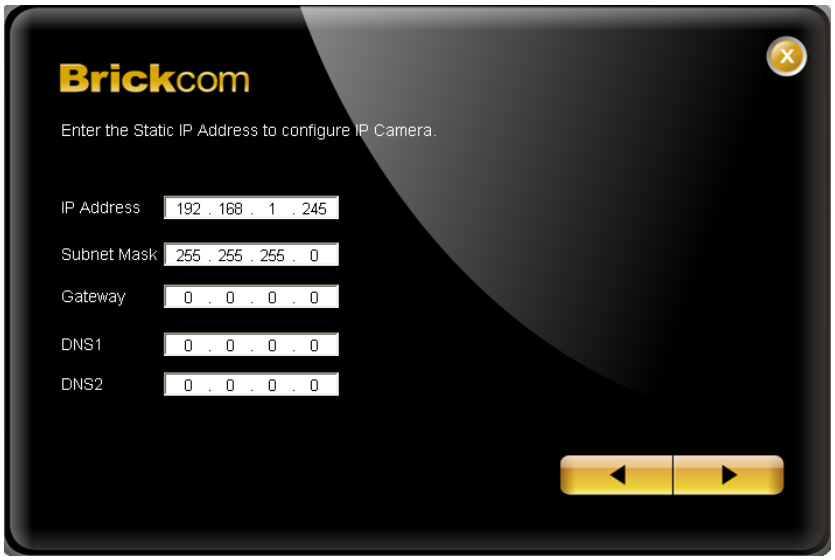


5. To configure the IP address settings, select either <**Settings remain the same**>, <**Automatically obtain an IP Address (DHCP)**> or <**Set IP Address configuration manually**>. The DHCP setting is recommended.

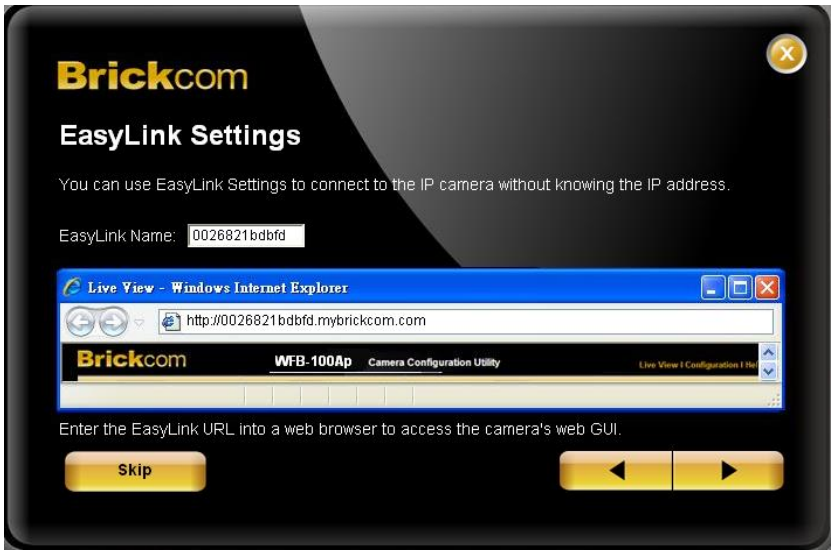
Brickcom
Select the IP Address settings.
Settings remain the same
Automatically obtain an IP Address (DHCP)
Set IP Address configuration manually

Brickcom
Select the IP Address settings.
Settings remains the same
Automatically obtain an IP Address (DHCP)
Set IP Address configuration manually

6. If <**Set IP Address configuration manually**> is selected, the following window will be displayed.


Brickcom
Enter the Static IP Address to configure IP Camera.
IP Address 192 . 168 . 1 . 245
Subnet Mask 255 . 255 . 255 . 0
Gateway 0 . 0 . 0 . 0
DNS1 0 . 0 . 0 . 0
DNS2 0 . 0 . 0 . 0

7. **If the camera supports the EasyLink™ function**, the following window **will be** displayed. Otherwise, this window **will not** be shown.

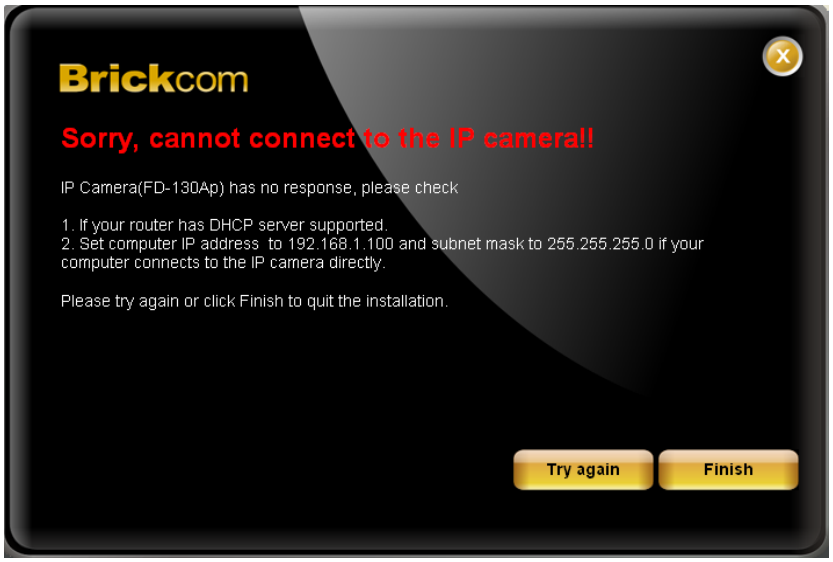

Brickcom
EasyLink Settings
You can use EasyLink Settings to connect to the IP camera without knowing the IP address.
EasyLink Name: 0026821bdbfd
Live View - Windows Internet Explorer
http://0026821bdbfd.mybrickcom.com
Brickcom WFB-100Ap Camera Configuration Utility
Enter the EasyLink URL into a web browser to access the camera's web GUI.
Skip

*If desired, click <**Skip**> to skip this setting. EasyLink™ is a unique Brickcom function which allows users to assign a unique EasyLink name to their network camera's IP address. There is no need to configure the router to open up ports or

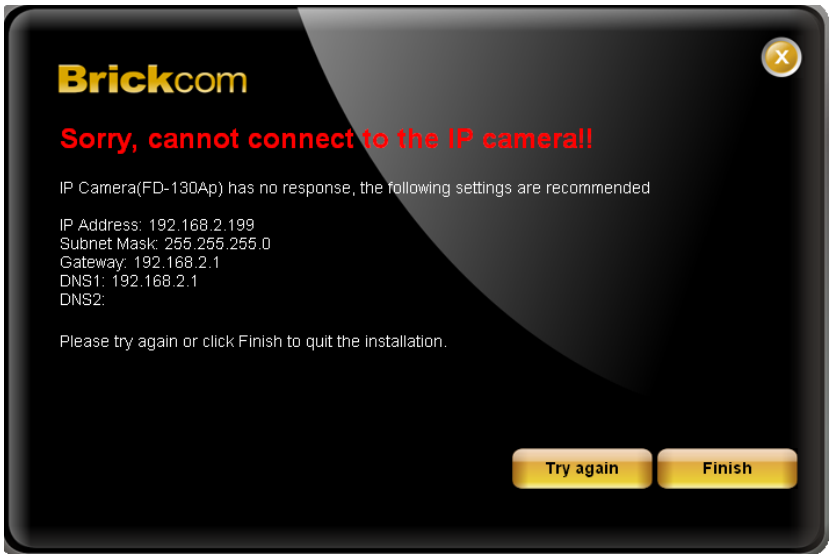
remember hard-to-memorize IP addresses. Users can log onto [uniqueEasyLinkname].mybrickcom.com to view the camera's web GUI and Live View.

- Enter a unique EasyLink name whose length must be between 5-32 characters.
- When finished, click the arrow button to continue.

8. When the IP address settings have been configured, the screen will either display a successful or failed connection message. If the connection failed, either try again or quit the installation.


Brickcom
Sorry, cannot connect to the IP camera!!
IP Camera(FD-130Ap) has no response, please check
1. If your router has DHCP server supported.
2. Set computer IP address to 192.168.1.100 and subnet mask to 255.255.255.0 if your computer connects to the IP camera directly.
Please try again or click Finish to quit the installation.
Try again
Finish

If “**DHCP IP address settings**” was selected, the failure window will be displayed as below.



If <**Static IP address settings**> was selected, the failure window will be displayed as above.

If the connection was successful, the user will see the message:

<Congratulations. The installation of the camera is complete.>

9. When this window is displayed, click <**BRC64**> to start the BRC64 program, <**Live View**> to view the live video from the connected IP camera, or <**X**> in the top right corner of the screen to close the installation window. If the user starts the BRC64 program, please refer to PC-NVR's user manual.

Once the installation is complete, the administrator should proceed to the next section "Accessing the Network Camera" for necessary changes and configurations.

Accessing the Network Camera

Check Network Settings

The camera can be connected either before or immediately after the software installation. The Administrator should complete the network settings on the configuration page, including entering the correct subnet mask, IP address of gateway, and DNS. Ask the network administrator or Internet service provider for the detail information.

Add the Password to Prevent Unauthorized Access

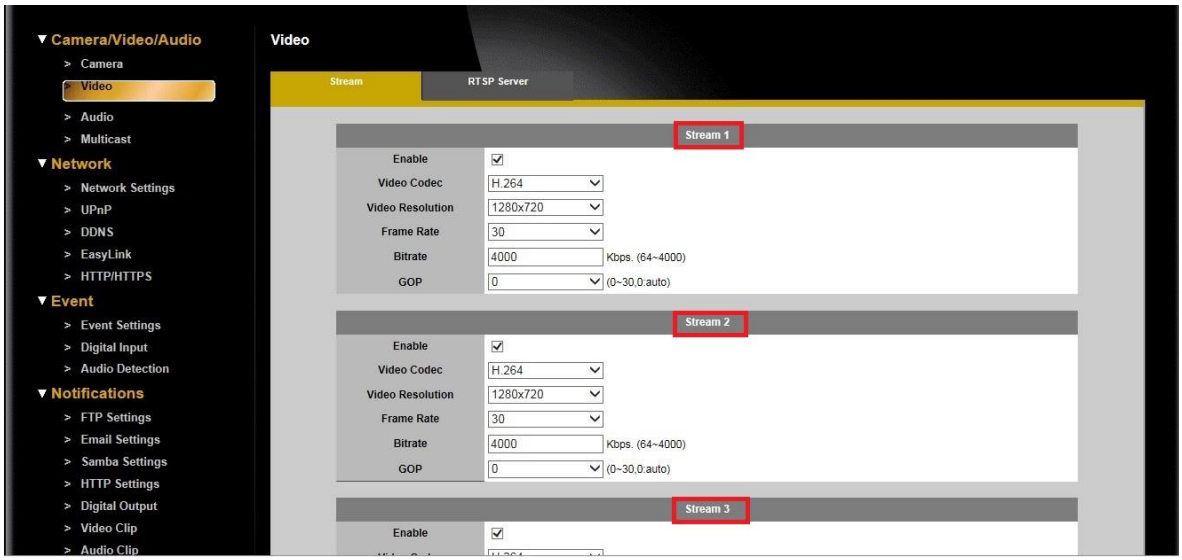
The administrator should immediately implement a new password as a matter of prudent security practice. For the first time, the username and password for the administrator are assigned as “admin/admin”. After the administrator changes the administrator password, the web browser will display an authentication window to confirm the new password. Once the password is set, there is no provision to recover the administrator’s password. If the administrator’s password is lost, please reset to the original factory default settings.

The administrator can be set up a maximum of ten user accounts. Users will be able to access the network camera, but will not be allowed to access system configurations.

Viewing Video Streams with Internet Explorer

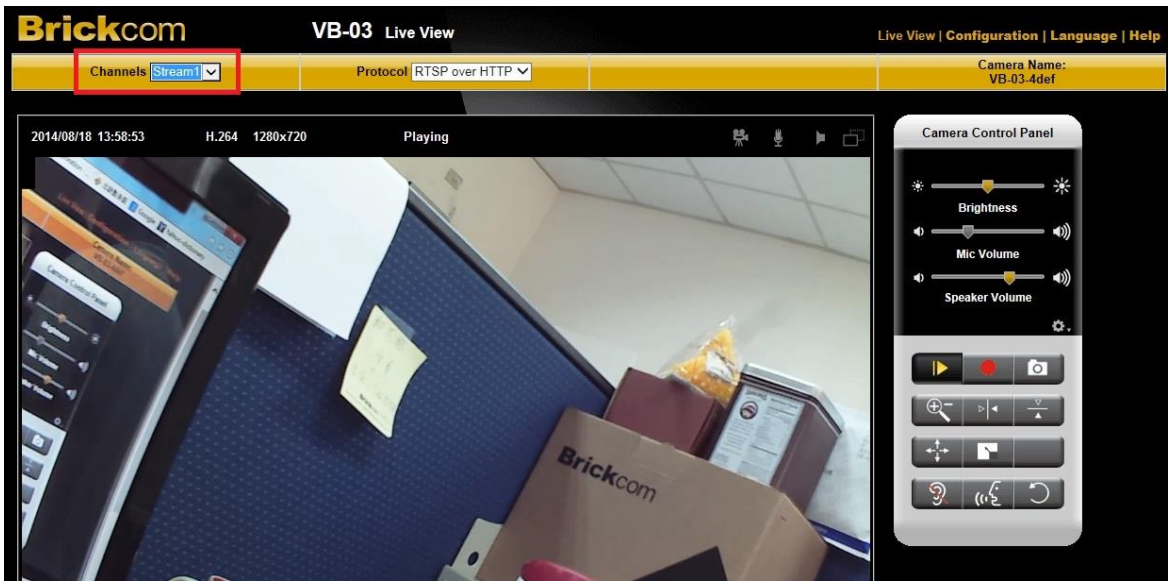
Step 1. Check the Video Stream Settings

On the camera's web UI, please go to ***Configuration*** → ***Camera/Video/Audio*** → ***Video***, and you will find the stream 1, stream 2, and stream 3 settings. Please make sure the video stream corresponding to the connected lens module is enabled. (Stream 1 corresponds to the lens module connected to lens port 1, and so on.)



Step 2. Select the Video Stream for Live View

After finishing the video stream settings, please go to "**Live View**" and select the stream you want to view from **Channels** (Stream1 / Stream2 / Stream3).

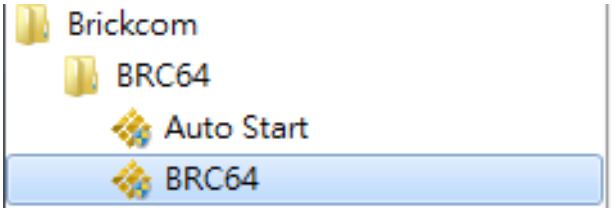


Viewing Video Streams with BRC64

Step 1. Launch BRC64

Double click

on the Windows desktop to launch BRC64, or click it on the program menu.



ⓘPlease make sure the version of BRC64 is v1.2.4.144 or above.

Step 2. Search for the Camera

Click on the control panel to start searching for the cameras on the LAN.

No matter how many lens modules you plug in the VB-03, three camera items will be displayed with the same name on the control panel.

Step 3. View 3 Streams Simultaneously

For each video stream you want to view, please select the camera item on the control panel. Then, drag and drop it to the video matrix for live view.

If the lens module hasn't been pluggged in the VB-03, the "Reconnecting" message will be shown, and you won't be able to view the image of this lens module. Please check if the lens modules are successfully plugged in the VB-03.